

What is claimed is:

- 1 1. A semiconductor cooling device comprising:
  - 2 a cold plate for cooling a semiconductor element;
  - 3 a condenser; and
  - 4 a positive-displacement refrigerant pump, said cold plate, condenser
  - 5 and refrigerant pump being fluid connected in series with each other to define a
  - 6 refrigerating cycle.
- 1 2. A semiconductor cooling device comprising:
  - 2 a cold plate for cooling a semiconductor element;
  - 3 a condenser;
  - 4 a receiver tank; and
  - 5 a centrifugal refrigerant pump, said cold plate, condenser, receiver tank
  - 6 and refrigerant pump being fluid connected in series with each other to define a
  - 7 refrigerating cycle.